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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,671	06/15/2001	Youichirou Sugino	04558/050001	9498

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EXAMINER	
DICUS, TAMRA	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/882,671	SUGINO ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18,21-35,42-51 and 53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,21-35,42-51 and 53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05-31-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The 102(b) rejection over USPN 5,286,418 to Nakamura et al. is withdrawn because Applicant amended the claims.

The IDS (5/31/06) is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-6, 21-22, 35, 42-49 and 53(new) are rejected under 35 U.S.C. 102(b) as being unpatentable over USPN 4,818,624 to Downey, Jr.

Downey teaches a polarizer comprising a stretched polyvinyl alcohol monolayer film alone and can further be laminated to a variety of supports including cellulose acetate or polyester such as polyethylene terephthalate (PET) via a polyvinyl alcohol (PVA) or polyurethane adhesive (col. 2, line 25-col. 3, line 11) per instant claims 1-2, 5, 22, 26, and 49. The film thickness ranges from 0.038 to 0.051 mm (col. 2, lines 32-35), converted is 38-51 microns, 20-50 microns, not more than 60 microns, not more than 75 microns, and at most 60 microns of instant claims 6, 42, 46, and 47.

Regarding the shrinkage factor, while Downey does not refer to a shrinkage factor per se, Downey does teach the single polarizer containing stretched PVA monolayer film should shrink

slightly noting reduced shrinkage after subjecting the film to elevated temperatures 120 - 200 degrees F for 24 hours (col. 2, lines 25-35, col. 3, lines 48-59, col. 4, lines 15-22, and Table I). Thus this teaching meets the recitation of a shrinkage force of at most 4.0 N/cm or from 1.0 to 3.7 N/cm of the polarizer alone per instant claims 1, 2, and 22 ("insubstantial amount" meets "at most 4.0 N/cm"). The dimensional change rate of not more than ±0.7% in a longitudinal direction (MD) after being heated at 70°C for 120 hours (instant claim 21), is inherent as the same material, and similar conditions are provided by Downey. Regarding claims 42-43 and 53, Downey teaches dying the hydrophilic PVA film in a treating bath (water), stretching the film due to heating (swelling treatment), treating the film with a dye such as iodine, and curing with a silylation of PVA using silane and organosilane compounds, boric acid and fuming hydrochloric acid (crosslinking treatment and agent as Applicant's disclose on page 1, line 15 and page 17, line 26 of the specification), and drying the film (see col. 3, lines 15-39, col. 4, line15-col. 5, line 20, col. 6, lines 25-60) (instant claims 42-43). To instant claim 48, a dye such as iodide is present (col. 3, lines 17-18). Regarding the claims to processes such as stretching, relaxing, and drying steps (claims 44-45), these are process limitations in a product claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. Patentability of an article depends on the article itself and not the method used to produce it (see MPEP 2113). Furthermore, the invention defined by a product-by-process invention is a product NOT a process. *In re Bridgeford*, 357 F. 2d 679. It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown,* 459 F. 29 531. Both Applicant's and prior art reference's product are the same.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,818,624 to Downey, Jr.

Downey essentially teaches the claimed invention as relied upon above. While Downey does teach the polarizer has a thickness from about 0.038 to about 0.051, converted is 38 to 51 microns, Downey does not teach the polarizer is thinner (at most 25 microns and 10-18 microns). However, it would have been obvious to one having ordinary skill in the art to produce a thinner polarizer using less material, thereby making a cost effective product.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,818,624 to Downey, Jr. in view of USPN 6,065,457 to Aminaka.

Downey essentially teaches the claimed invention as relied upon above.

Downey does not teach a PVA having a saponification degree of at least 75 mol% or the average polymerization degree from 500-10000 (instant claim 7).

Aminaka teaches optical layers in liquid crystal displays. Aminaka teaches using commercially available PVA having saponification degree of not smaller than 80%, which falls

within Applicant's range, and a polymerization degree preferably of not smaller than 200, which is close within Applicant's recited range above. See col. 20, lines 5-12.

It would have been obvious to one having ordinary skill in the art to have modified the polarizer of Downey to include a PVA having the requirements recited because Aminaka teaches the specific PVA is a commercially available, serving as an equivalent, useful in polarizers for LCDs (see col. 20, lines 5-12) to align discotic compounds found in PVAs to assist in activation by electric or magnetic fields or light for orientation purposes or to aid in preparing an ellipsoidal polarizing plate (see col. 19, lines 35-col. 20, line 11 and col. 20, lines 22-23 of Aminaka).

Claims 8-16, 23-28, 42-47 and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,818,624 to Downey, Jr. in view of USPN 6,065,457 to Aminaka.

Downey teaches a polarizer comprising a stretched polyvinyl alcohol monolayer film alone and can further be laminated to a variety of supports including cellulose acetate or polyester such as polyethylene terephthalate (PET) (polarizing plate) via a polyvinyl alcohol (PVA) or polyurethane adhesive (col. 2, line 25-col. 3, line 11) per instant claims 8, 13-14, 15, and 26. See also abstract. Regarding instant claims 24, 25, and 27, the film thickness ranges from 0.038 to 0.051 mm (col. 2, lines 32-35), converted is 38-51 microns, 20-50 microns, not more than 60 microns, not more than 75 microns, and at most 60 microns of instant claims. Further, while Downey does teach the polarizer has a thickness from about 0.038 to about 0.051, converted is 38 to 51 microns, Downey does not teach the polarizer is thinner (at most 25 microns and 10-18 microns). However, it would have been obvious to one having ordinary skill

in the art to produce a thinner polarizer using less material, thereby making a cost effective product.

Regarding the shrinkage factor, while Downey does not refer to a shrinkage factor per se, Downey does teach the single polarizer containing stretched PVA film should shrink slightly noting reduced shrinkage after subjecting the film to elevated temperatures 120 - 200 degrees F for 24 hours (col. 2, lines 25-35, col. 3, lines 48-59, col. 4, lines 15-22, and Table I). Thus this teaching meets the recitation of a shrinkage force of at most 4.0 N/cm or from 1.0 to 3.7 N/cm of the polarizer alone per instant claims 1, 2, and 22 ("insubstantial amount" meets "at most 4.0 N/cm"). The dimensional change rate of not more than ±0.7% in a longitudinal direction (MD) after being heated at 70°C for 120 hours (instant claim 16), is inherent as the same material, and similar conditions are provided by Downey. Regarding claims 35 and 50-51, Downey teaches dying the hydrophilic PVA film in a treating bath (water), stretching the film due to heating (swelling treatment), treating the film with a dye such as iodine, and curing with a silylation of PVA using silane and organosilane compounds, boric acid and fuming hydrochloric acid (crosslinking treatment and agent as Applicant's disclose on page 1, line 15 and page 17, line 26 of the specification), and drying the film (see col. 3, lines 15-39, col. 4, line15-col. 5, line 20, col. 6, lines 25-60) (instant claims 42-43). To instant claim 48, a dye such as iodide is present (col. 3, lines 17-18). Regarding the claims to processes such as stretching, relaxing, and drying steps (claims 44-45), these are process limitations in a product claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. Patentability of an article depends on the article itself and not the method used to produce it (see MPEP 2113). Furthermore, the invention defined by a product-by-process invention is a product

NOT a process. *In re Bridgeford*, 357 F. 2d 679. It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown,* 459 F. 29 531. Both Applicant's and prior art reference's product are the same.

While Downey teaches using a cellulose acetate film laminated to the PVA polarizer film (col. 2, line 50), Downey does not teach a protective film or its composition of triacetylcellulose, laminated via an adhesive on the polarizer or the thickness of the protective film as instant claim 8-13 recite.

Aminaka teaches polarizers and optical films used in LCDs. Aminaka teaches a protective layer of triacetylcellulose laminated to a transparent polymer film of PVA via an adhesive layer forming an ellipsoidal polarizing plate. See col. 20, lines 40-col. 21, line 35. Aminaka teaches the thickness of the protective triacetylcellulose ranges from 20 to 500 microns (col. 20, line 63), falling within Applicant's claimed range of at least 80 microns, from 80 – 200 microns (instant claims 10-11).

It would have been obvious to one of ordinary skill in the art to have modified the film of Downey to further include a protective film/adhesive/polarizer in this order because Aminaka teaches such structure is useful in preparing an ellipsoidal polarizing plate improving a viewing angle of a LCD of bend alignment mode or homogenous alignment mode without causing color contamination on a displayed image (col. 3, lines 35-50 and col. 4, lines 53-59 of Aminaka). Further it is obvious to utilize the protective film because it is made of the same triacetylcellulose film and functions to serve as a protective layer and Aminaka teaches the material serves as a protective membrane for protecting the PVA film (col. 21, line 19-24). It would have been obvious to one of ordinary skill in the art to use an adhesive to adhere the protective and

polarizing layers to result in a laminate for producing an ellipsoidal polarizing plate. Because the protective film thickness falls within the Applicant's range (taught by Aminaka above), and the polarizer thickness falls within Applicant's range, it would have been obvious to have modified the polarizer of Downey to satisfy the A/B relationship of instant claims 8-9, as they are conventional thicknesses used in an LCD as cited above.

Further, in regards to instant claim 14, while Downey teaches an adhesive of polyvinyl alcohol, Downey does not teach the adhesive that adheres a protective film and polarizer is of PVA. However, because Downey teaches a PVA-based adhesive is a suitable type of adhesive to adhere polarizers to substrates and Aminaka teaches the structure adhering PVA to a protective film, it would have been obvious to utilize a PVA-based adhesive as it serves to adhere two layers to provide a laminate as cited above.

Regarding claim 28, Downey does not teach a PVA having a saponification degree of at least 75 mol% or the average polymerization degree from 500-10000.

Aminaka teaches optical layers in liquid crystal displays. Aminaka teaches using commercially available PVA having saponification degree of not smaller than 80%, which falls within Applicant's range, and a polymerization degree preferably of not smaller than 200, which is close within Applicant's recited range above. See col. 20, lines 5-12.

It would have been obvious to one having ordinary skill in the art to have modified the polarizer of Downey to include a PVA having the requirements recited because Aminaka teaches the specific PVA is a commercially available equivalent useful in polarizers for LCDs (see col. 20, lines 5-12) to align discotic compounds found in PVAs to assist in activation by electric or

magnetic fields or light for orientation purposes or to aid in preparing an ellipsoidal polarizing plate (see col. 19, lines 35-col. 20, line 11 and col. 20, lines 22-23 of Aminaka).

Claims 17-18 and 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,818,624 to Downey, Jr. in view of USPN 6,065,457 to Aminaka and further in view of USPN 6,361,838 to Miyatake et al.

Downey in view of Aminaka is relied upon above to claim 8.

The combination does not teach further comprising an optical layer selected from a reflector, transreflector, retardation plate, lambda plate, a viewing angle compensating film, or a brightness enhancement plate of instant claims 17 and 29-34.

Miyatake teaches an optical film/member that may be used to produce a multilayer structure by providing optical layers on sides of a polarizing/retardation film that includes absorption types like hydrophilic polymer films of PVA that have been stretched. See col. 7, lines 39-65, and col. 8, lines 5-54. Such optical films, like those of instant claims 17 and 29-34 may be used to produce the following types of films: absorption type, reflection type, scattering type polarizers, retardation films including a quarter-wavelength plate, a half-wavelength plate, a retardation film comprising a uni- or biaxially or otherwise stretched film, a film comprising a film which has undergone inclined orientation, i.e., which has undergone molecular orientation also in the thickness direction, a film comprising a liquid crystal polymer, a film in which a retardation caused by a viewing angle or birefringence is compensated for, and a film comprising two or more of these retardation films superposed on each other. See col. 8, lines 1-54. Miyatake teaches a polarizing film also includes a polarizing film comprising any of the above-

described polarizing films and a transparent protective layer formed on one or each side thereof for the purpose of protection against water. Miyatake does not explicitly define the aforementioned functional films as "brightness-enhanced" or a "transflector". The Examiner takes the position that the phrase "brightness-enhanced" is a functional equivalent of the optical film of Miyatake at col. 7, lines 38-51 since the optical film that functions to improve perceptibility and bright displays as taught by Miyatake at col. 6, lines 50-60. The Examiner also takes the position that "transflector" is synonymous to an optical layer that reflects or scatters light as taught above in the aforementioned film types.

Thus, it would have been obvious to one having ordinary skill in the art to have modified the combination of Downey in view of Aminaka because Miyatake teaches an optical layer selected from a reflector, transreflector, retardation plate, lambda plate, a viewing angle compensating film, and a brightness enhancement plate for various functions as explained above for light scattering properties, protection against water, to improve perceptibility and bright displays used in multilayered polarizers in an LCD (col. 8, lines 1-66, col. 9, lines 1-36 and col. 11, lines 32-40 of Miyatake).

Further to claim 18, the combination of Downey and Aminaka does not teach a polarizing plate laminated through an adhesive layer to an optical layer.

Miyatake teaches lamination of said polarizing plate and optical layer via an adhesive in Example 2 for the purpose of adhering the two layers thus forming a multilayered laminate polarizer used in LCDs. Further adhesives layers are present in a laminate as shown by all cited prior art above.

Thus it would have been obvious to one having ordinary skill in the art to have modified the combination to include an adhesive layer laminating a polarizing plate and optical layer because the cited prior art teaches adhesive layers are used to adhere additional layers for the purposes of forming a multilayered optical element used in LCDs and Miyatake teaches an adhesive layer in Example 2 for laminating optical layers.

Response to Arguments

Applicant's arguments filed 09-25-06 have been fully considered but they are not persuasive.

Applicant submitted a corrected declaration, however, the declaration includes paragraph 8, the result from the data on the 40 micron thick film is 4 N/cm, while the graph shows different. The difference should be clarified in a following response.

The Examiner also reviewed the supplemental declaration, however, the dimensional change rate and shrinkage force correlations is noted, while Applicant argued they do not correlate, do not show all of Downey's parameters and conditions compared to the instant invention to show a convincing difference between the instant invention and Downey's disclosure. For instance, the time of Downey is left out of the test data (Example 4 states Downey's film is dried at 200 degrees F and for approximately 3 minutes). Also, while Applicant argues that Downey's is dry-stretched, Downey does not teach this; shown at col. 2, lines 35-36, the stretching can be performed using methods known in the art. Downey's

temperature range for drying the film is from 120 to 210 degrees F, which is 48.9-98.9 degrees C, falling within Applicant's range of 80 degrees C.

Downey also explicitly shows a result of slight PVA shrinking, in Table I, which leads one to believe that high shrinkage is not desirable. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). When the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a prima facie case of either anticipation of obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada,* 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The ***prima facie*** case can be rebutted by evidence showing that the prior art products do not necessarily posses the characteristics of the claimed products. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). See MPEP § 2112- 2112.02.

Applicant argues that Downey is not a sole/single/monolayer. However, Downey shows in Example 4, the PVA stretched before being laminated, and thus serves as the same single/monolayer as Applicant.

Applicant argues the silyation treatment of Downey having a limited effect, but has not provided evidence to this effect. Further the exclusion of a silyation treatment is not in the present claims.

Conclusively, the Declarations are simply lacking enough conditions and data where comparisons are clearly noted between Applicant's invention and Downey's patent. It appears Applicants are simply measuring what is already provided for in the art, and thus the submitted. arguments and declarations are not convincing because Downey teaches the same layer having the same dyed and stretched PVA material.

Downey is still used to teach a polarizer alone in a single layer having the required shrinkage force. Aminaka is still used in the rejection to teach the PVA properties e.g. saponification degree and the protective film of triacetylcellulose. Miyatake is still relied upon to teach the various functionality films e.g. transflector, retardation, lambda.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamra L. Dicus
Examiner
Art Unit 1774

December 8, 2006

RENA DYE
SUPERVISORY PATENT EXAMINER